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PTO/SB/05 (03-01)

Approved for use through 10/31/2002. OMB 0651-0032

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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# UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No. 8836-140 DIV (IE 10178-US)  
 First Inventor Jin-Hwa Heo  
 Title Semiconductor Device Having Trench Isolation  
 Express Mail Label No. EV 413369930US

## APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

1. ☒ Fee Transmittal Form (e.g., PTO/SB/17)  
 (Submit an original and a duplicate for fee processing)
2. ☐ Applicant claims small entity status.  
 See 37 CFR 1.27.
3. ☒ Specification [Total Pages 17]  
 (preferred arrangement set forth below)
- Descriptive title of the invention
  - Cross Reference to Related Applications
  - Statement Regarding Fed sponsored R & D
  - Reference to sequence listing, a table, or a computer program listing appendix
  - Background of the Invention
  - Brief Summary of the Invention
  - Brief Description of the Drawings (if filed)
  - Detailed Description
  - Claim(s)
  - Abstract of the Disclosure
4. ☒ Drawing(s) (35 U.S.C. 113) [Total Sheets 3]
5. Oath or Declaration [Total Pages 2]
- a. ☐ Newly executed (original or copy)
- b. ☒ Copy from a prior application (37 CFR 1.63 (d))  
 (for continuation/divisional with Box 18 completed)
- i. ☐ DELETION OF INVENTOR(S)  
 Signed statement attached deleting inventor(s) named in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).
6. ☐ Application Data Sheet. See 37 CFR 1.76

ADDRESS TO: Assistant Commissioner for Patents  
 Box Patent Application  
 Washington, DC 20231

7. ☐ CD-ROM or CD-R in duplicate, large table or Computer Program (Appendix)
8. Nucleotide and/or Amino Acid Sequence Submission (if applicable, all necessary)
- a. ☐ Computer Readable Form (CRF)
- b. Specification Sequence Listing on:
- i. ☐ CD-ROM or CD-R (2 copies); or
- ii. ☐ paper
- c. ☐ Statements verifying identity of above copies

## ACCOMPANYING APPLICATION PARTS

9. ☐ Assignment Papers (cover sheet & document(s))
10. ☐ 37 CFR 3.73(b) Statement of Power of Attorney (when there is an assignee)
11. ☐ English Translation Document (if applicable)
12. ☐ Information Disclosure Statement (IDS)/PTO-1449 [Copies of IDS Citations]
13. ☐ Preliminary Amendment
14. ☒ Return Receipt Postcard (MPEP 503) (Should be specifically itemized)
15. ☐ Certified Copy of Priority Document(s) (if foreign priority is claimed)
16. ☐ Nonpublication Request under 35 U.S.C. 122 (b)(2)(B)(i). Applicant must attach form PTO/SB/35 or its equivalent.
17. ☐ Other:

18. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in a preliminary amendment, or in an Application Data Sheet under 37 CFR 1.76:

☐ Continuation ☒ Divisional ☐ Continuation-in-part (CIP) of prior application No.: 09,990,740

Prior application information: Examiner Blum, David S. Group Art Unit: 2813

For CONTINUATION OR DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 5b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

## 19. CORRESPONDENCE ADDRESS

☐ Customer Number or Bar Code Label  or ☐ Correspondence address below

Name Frank Chau, Esq.  
 F. CHAU & ASSOCIATES, LLP  
 Address 1900 Hempstead Turnpike  
 City East Meadow State New York Zip Code 11554  
 Country USA Telephone 516-357-0091 Fax 516-357-0092

Name (Print/Type) Thomas W. McNally Registration No. (Attorney/Agent) 48,609  
 Signature  Date 12 March 2003

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Box Patent Application, Washington, DC 20231.

15325 U.S. PTO  
 10/734354



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PTO/SB/17 (01-03)

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# FEE TRANSMITTAL for FY 2003

Effective 01/01/2003. Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$ 770.000

## Complete if Known

Application Number	
Filing Date	December 12, 2003
First Named Inventor	Jin-Hwa Heo
Examiner Name	
Art Unit	
Attorney Docket No.	8836-140 (IE 10178-US)

## METHOD OF PAYMENT (check all that apply)

☐ Check ☒ Credit card ☐ Money Order ☐ Other ☐ None

☐ Deposit Account:

 Deposit  
Account  
Number  
Deposit  
Account  
Name

50-0679

F. Chau &amp; Associates, LLP

The Commissioner is authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☒ Credit any overpayments

☐ Charge any additional fee(s) during the pendency of this application

☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

## FEE CALCULATION

## 1. BASIC FILING FEE

Large Entity Fee Code	Small Entity Fee Code	Fee Description	Fee Paid
1001 750	2001 375	Utility filing fee	770.00
1002 330	2002 165	Design filing fee	
1003 520	2003 260	Plant filing fee	
1004 750	2004 375	Reissue filing fee	
1005 160	2005 80	Provisional filing fee	
SUBTOTAL (1)			(\$ 770.00

## 2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Total Claims	Extra Claims	Fee from below	Fee Paid
8	-20** = 0	x 18 = 0	
Independent Claims	1	-3** = 0	x 86 = 0
Multiple Dependent		290	= 0

Large Entity Fee Code	Small Entity Fee Code	Fee Description
1202 18	2202 9	Claims in excess of 20
1201 84	2201 42	Independent claims in excess of 3
1203 280	2203 140	Multiple dependent claim, if not paid
1204 84	2204 42	** Reissue independent claims over original patent
1205 18	2205 9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$ 0

\*\*or number previously paid, if greater; For Reissues, see above

## FEE CALCULATION (continued)

## 3. ADDITIONAL FEES

Large Entity Small Entity

Fee Code	Fee (\$)	Fee Code	Fee (\$)	Fee Description
1051 130		2051 65		Surcharge - late filing fee or oath
1052 50		2052 25		Surcharge - late provisional filing fee or cover sheet
1053 130		1053 130		Non-English specification
1812 2,520		1812 2,520		For filing a request for ex parte reexamination
1804 920*		1804 920*		Requesting publication of SIR prior to Examiner action
1805 1,840*		1805 1,840*		Requesting publication of SIR after Examiner action
1251 110		2251 55		Extension for reply within first month
1252 410		2252 205		Extension for reply within second month
1253 930		2253 465		Extension for reply within third month
1254 1,450		2254 725		Extension for reply within fourth month
1255 1,970		2255 985		Extension for reply within fifth month
1401 320		2401 160		Notice of Appeal
1402 320		2402 160		Filing a brief in support of an appeal
1403 280		2403 140		Request for oral hearing
1451 1,510		1451 1,510		Petition to institute a public use proceeding
1452 110		2452 55		Petition to revive - unavoidable
1453 1,300		2453 650		Petition to revive - unintentional
1501 1,300		2501 650		Utility issue fee (or reissue)
1502 470		2502 235		Design issue fee
1503 630		2503 315		Plant issue fee
1460 130		1460 130		Petitions to the Commissioner
1807 50		1807 50		Processing fee under 37 CFR 1.17(q)
1806 180		1806 180		Submission of Information Disclosure Stmt
8021 40		8021 40		Recording each patent assignment per property (times number of properties)
1809 750		2809 375		Filing a submission after final rejection (37 CFR 1.129(a))
1810 750		2810 375		For each additional invention to be examined (37 CFR 1.129(b))
1801 750		2801 375		Request for Continued Examination (RCE)
1802 900		1802 900		Request for expedited examination of a design application

Other fee (specify)

\*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$

## SUBMITTED BY

Name (Print/Type)

Thomas W. McNally

Registration No.  
(Attorney/Agent)

48,609

(Complete if applicable)

Telephone 516-357-0091

Signature

Date

12 Dec 2003

**WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**

This collection of information is required by 37 CFR 1.17 and 1.27. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

PATENT

Atty. Docket No. 8836-140 DIV (IE10178-US)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

MAIL STOP PATENT APPLICATIONS  
Commissioner for Patents  
PO BOX 1450  
Alexandria VA 22313-1450

APPLICATION FEE TRANSMITTAL

Sir:

Transmitted herewith for filing is the patent application of

Inventor(s): Jin-Hwa Heo, Soo-Jin Hong

For: SEMICONDUCTOR DEVICE HAVING TRENCH ISOLATION LAYER  
AND A METHOD OF FORMING THE SAME

This application is a:

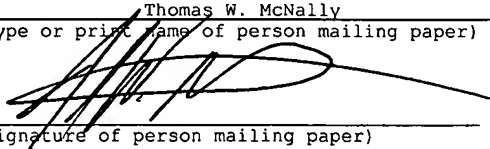
- ☐ Continuation
- ☐ Continuation-In-Part (CIP)
- ☒ Divisional

of co-pending U.S. application Serial No. 09/990,740  
filed on November 16, 2001

CERTIFICATION UNDER 37 C.F.R. § 1.10

I hereby certify that this Application transmittal and the documents referred to as enclosed are being deposited with the United States Postal Service on this date December 12, 2003 in an envelope as "Express Mail Post Office to Addressee" Mailing Label Number EV 413369930US addressed to: Mail Stop Patent Application, Commissioner for Patents, PO Box 1450, Alexandria VA 22313-1450.

Thomas W. McNally  
(Type or print name of person mailing paper)

  
(Signature of person mailing paper)

**Enclosed are:**

- [X] 12 page(s) of specification
- [X] 1 page(s) of Abstract
- [X] 4 page(s) of claims
- [X] 3 sheets of drawings [X] formal [ ] informal
- [X] 2 page(s) of Declaration and Power of Attorney  
(copy as filed in co-pending application no.  
09/990,740, filed November 16, 2001).

[X] Certified copy of applications

<u>Country</u>	<u>Appln. No.</u>	<u>Filed</u>
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from which priority under Title 35 United States Code, § 119  
is claimed

[ ] is enclosed.

[ ] will follow.

[X] original filed in co-pending application no.  
09/990,740 filed November 16, 2001

**Additional papers enclosed:**

- [X] Preliminary Amendment
- [ ] Information Disclosure Statement
- [ ] Form PTO-1449
- [ ] Other

**Fee Calculation (37 C.F.R. §1.16)**

For	Number Filed	Number Extra	Rate	Basic Fee \$770.00
Total Claims*	8	-20 = 0	x \$ 18.00	\$ .00
Independent Claims	1	-3 = 0	x \$ 86.00	\$ .00
Multiple Dependent Claims	[ ] yes	Add'l. Fee	\$290.00	\$
	[X] no	Add'l. Fee	None	= \$ .00
TOTAL				\$770.00

[ ] Verified Statement of "Small Entity" Status Under 37 C.F.R. § 1.27 [ ] is enclosed, [ ] was filed in parent application. Reduced fees under 37 C.F.R. § 1.9(f) (50% of total) paid herewith \$    .00.

[ ] Please charge fee of \$       For recording the attached Assignment by Credit Card Payment Form PTO-2028 enclosed herewith.

[X] Please charge fee of **\$770.00** to cover the filing fee by Credit Card Payment Form PTO-2038 enclosed herewith.

[ ] Charge fee to Deposit Account No. 50-0679 **TWO (2) COPIES OF THIS SHEET ARE ENCLOSED.**

\* Includes all independent and single dependent claims and all claims referred to in multiple claims. See 37 C.F.R. § 1.75(c).

[X] Please charge any deficiency as well as any other fee(s) which may become due under 37 C.F.R. § 1.16 and/or 1.17 at any time during the pendency of this application, or credit any overpayment of such fee(s) to Deposit Account No. 50-0679. Also, in the event any extensions of time for responding are required for the pending application(s), please treat this paper as a petition to extend the time as required and charge Deposit Account No. 50-0679 therefor. **TWO (2) COPIES OF THIS SHEET ARE ENCLOSED.**

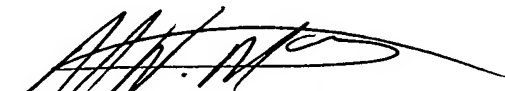
**Relate Back - 35 U.S.C. § 120**

[X] Amend the specification by inserting before the first line the sentence:

"This is a [ ] continuation [ ] continuation-in-part  
[X] divisional of copending application Serial No.  
09/990,740, filed November 16, 2001

[X] The prior application is assigned of record to  
Samsung Electronic Co., LTD.  
recorded on November 16, 2001 Reel 012323, Frame 0222.

Date: 12 December 2003

  
SIGNATURE OF ATTORNEY  
Thomas W. McNally  
Reg. No. 48,609

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FC/TWM:mel